

**Topic 11-4: Geometric Probability**

Recall: **Probability** is the likelihood that an event will happen.

When an event is definitely going to happen, its probability is = \_\_\_\_\_.

When an event will never happen, its probability is = \_\_\_\_\_.

$$\text{Probability} = \frac{\text{possibility of one event occurring}}{\text{possibility of any event occurring}}$$

Example 1:

There are 4 red marbles, 6 blue marbles, 7 purple marbles, 3 orange marbles and 4 pink marbles. If you grab a random marble without looking, what is the probability that the marble is blue? After replacing the marble you have drawn, what is the probability that you do not grab a pink marble when you draw again?

Example 2: Piece of yarn:

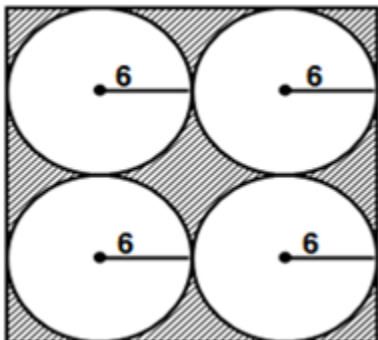


What's the probability of someone picking the left side of the knot? What's the probability of someone picking the right side?

Length of entire string	
Length of x	
Length of y	
Probability of picking x	
Probability of picking y	

EXAMPLE 3:

Find the probability that a point chosen at random lies in the unshaded region. Round to the nearest hundredth, if necessary.



Example 4:

A poster board contains a square and parallelogram. Students will attempt to toss bean bags that will land on the square and the parallelogram. Calculate the probability that a bean bag will land on either the square or parallelogram.

